



September 7, 2018

ArcelorMittal Indiana Harbor, LLC
3001 Dickey Road / Station 001
East Chicago, IN 46312-1610

Work Order No.: 18H1877

Re: IMS Baghouse

Dear Jay Huitsing:

Microbac Laboratories, Inc. - Chicagoland Division received 1 sample(s) on 8/27/2018 2:03:00PM for the analyses presented in the following report as Work Order 18H1877.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Ron Misiunas, Division Manager, at ron.misiunas@microbac.com.

Sincerely,
Microbac Laboratories, Inc.

A handwritten signature in black ink that reads "Carey Gadzala". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Carey Gadzala
Project Manager

[Microbac Laboratories, Inc.](http://www.microbac.com)

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WORK ORDER SAMPLE SUMMARY**Date:** *Friday, September 7, 2018*

Client: ArcelorMittal Indiana Harbor, LLC**Project:** IMS Baghouse**Lab Order:** 18H1877

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18H1877-01	IHW IMS Baghouse		08/27/2018 12:00	8/27/2018 2:03:00PM

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Analytical Results

Date: Friday, September 7, 2018

Client: ArcelorMittal Indiana Harbor, LLC

Client Project: IMS Baghouse

Client Sample ID: IHW IMS Baghouse

Sample Description:

Matrix: Solid

Work Order/ID: 18H1877-01

Sampled: 08/27/2018 12:00

Received: 08/27/2018 14:03

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
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			Method: 1311/7470A			Analyst: JNH		
TCLP Mercury by CVAA			Prep Method: SW-846 1311/SW-846 7470			Prep Date/Time: 08/30/2018 09:22		
Mercury	dil	A	ND	0.0010		mg/L	1	08/31/2018 10:57

			Method: 1311/6010C			Analyst: BTM		
TCLP Metals by ICP			Prep Method: SW-846 1311/SW846 3005A			Prep Date/Time: 08/30/2018 07:55		
Arsenic	dil	A	ND	0.0100		mg/L	1	08/30/2018 17:38
Barium	dil	A	ND	0.500		mg/L	1	08/30/2018 17:38
Cadmium	dil	A	ND	0.00200		mg/L	1	08/30/2018 17:38
Chromium	dil	A	ND	0.00500		mg/L	1	08/30/2018 17:38
Lead	dil	A	ND	0.00750		mg/L	1	08/30/2018 17:38
Selenium	dil	A	ND	0.0300		mg/L	1	08/30/2018 17:38
Silver	dil	A	ND	0.0100		mg/L	1	08/30/2018 17:38

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FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

B = Detected in the associated method Blank at a concentration above the routine RL
 b- = Detected in the associated method Blank at a concentration greater than 2.2 times the MDL
 b* = Detected in the associated method Blank at a concentration greater than half the RL
 CFU = Colony forming units
 D = Dilution performed on sample
 DF = Dilution Factor
 g = Gram
 E = Value above quantitation range
 H = Analyte was prepared and/or analyzed outside of the analytical method holding time
 I = Matrix Interference
 J = Analyte concentration detected between RL and MDL (Metals / Organics)
 LOD = Limit of Detection
 LOQ = Limit of Quantitation
 m3 = Meters cubed
 MDL = Method Detection Limit
 mg/Kg = Milligrams per Kilogram (ppm)
 mg/L = Milligrams per Liter (ppm)
 NA = Not Analyzed
 ND = Not Detected at the Reporting Limit (or the Method Detection Limit, if used)
 NR = Not Recovered
 R = RPD outside accepted recovery limits
 RL = Reporting Limit
 S = Spike recovery outside recovery limits
 Surr = Surrogate
 U = Undetected
 > = Greater than
 < = Less than
 % = Percent
 * = Result exceeds project specific limits

ANALYTE TYPES: (AT)

A,B = Target Analyte
 I = Internal Standard
 M = Summation Analyte
 S = Surrogate
 T = Tentatively Identified Compound (TIC, concentration estimated)

QC SAMPLE IDENTIFICATIONS

BLK = Method Blank	ICSA = Interference Check Standard "A"
DUP = Method Duplicate	ICSAB = Interference Check Standard "AB"
BS = Method Blank Spike	BSD = Method Blank Spike Duplicate
MS = Matrix Spike	MSD = Matrix Spike Duplicate
ICB = Initial Calibration Blank	ICV = Initial Calibration Verification
CCB = Continuing Calibration Blank	CCV = Continuing Calibration Verification
CRL = Client Required Reporting Limit	OPR = Ongoing Precision and Recovery Standard
PDS = Post Digestion Spike	SD = Serial Dilution
QCS = Quality Control Standard	

CERTIFICATIONS (Certs)

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

- ^d Illinois EPA drinking water, wastewater and solid waste analysis (#200064)
- ⁱ Kansas Dept Health & Env. NELAP (#E-10397)
- ^l North Carolina DENR NPDES effluent, surface water (#597)



COOLER INSPECTION

Client Name: ArcelorMittal Indiana Harbor, LLC

Work Order Number: 18H1877

Checklist completed by: 8/27/2018 2:10:00PM Cheri Lynn Taylor

Date: Friday, September 7, 2018

Date/Time Received: 08/27/2018 14:03

Received by: Cheri Lynn Taylor

Reviewed by: 8/30/2018 CAG

Carrier Name: Client Delivered

Cooler ID: Default Cooler

Container/Temp Blank Temperature: 21.0° C

After-Hour Arrival?	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
Shipping container/cooler in good condition?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample containers?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
COC present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC included sufficient client identification?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC included sufficient sample collector information?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC included a sample description?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC agrees with sample labels?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC identified the appropriate matrix?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC included date of collection?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC included time of collection?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC identified the appropriate number of containers?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Samples in proper container/bottle?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Sample containers intact?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
All samples received within holding time?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
If the samples are preserved, are the preservatives identified?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	

If No, adjusted by? _____

COC included the requested analyses?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
COC signed when relinquished and received?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Samples received on ice?	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
Samples properly preserved?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Voa vials for aqueous samples have zero headspace?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>

Cooler Comments: Size reduction on sample

ANY "NO" EVALUATION (excluding After-Hour Receipt) REQUIRES CLIENT NOTIFICATION.

Sample ID	Client Sample ID	Comments
18H1877-01	IHW IMS Baghouse	

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